



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
19.08.1998 Bulletin 1998/34

(51) Int Cl.⁶: **A47K 10/32**

(21) Application number: **98300957.2**

(22) Date of filing: **10.02.1998**

(84) Designated Contracting States:
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE
Designated Extension States:
AL LT LV MK RO SI

(72) Inventor: **Kake, Masutaka**
Tsuchido, Onomichi-shi, Hiroshima-ken (JP)

(74) Representative:
Purvis, William Michael Cameron et al
D. Young & Co.,
21 New Fetter Lane
London EC4A 1DA (GB)

(30) Priority: **13.02.1997 JP 1224/97**

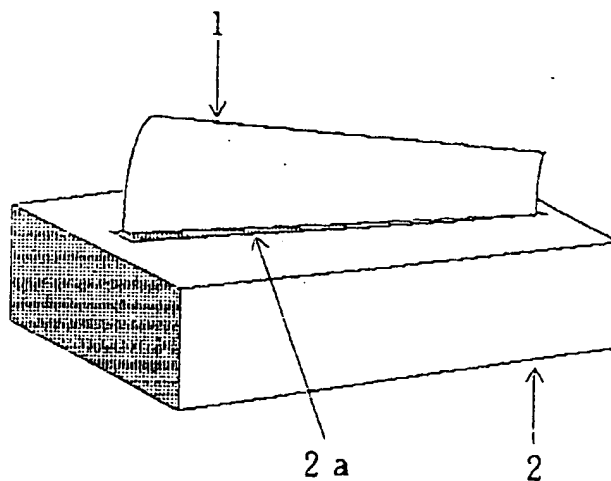
(71) Applicant: **Yugenkaisha Uenoyabikohen**
Onomichi-shi, Hiroshima-ken (JP)

(54) **Moist toilet tissue**

(57) Moist toilet tissue prepared by impregnating a main body (1) of paper-made tissue with a dilute aqueous solution of epigallocatechin gallate and introducing

the impregnated main body into a waterproof container (2) provided with a takeout hole (2a). The tissue (1) is withdrawn through the hole, cut off and put to use.

Fig. 1



Description

The invention relates to a moist toilet tissue.

Although prior moist toilet tissues impregnated with water and alcohol have an effect of wiping off dirt and a disinfective effect, they are insufficient from the viewpoint of deodorant effect. When such prior tissues are used for wiping off excrement or the like emitting an intense unpleasant odour, the used tissues emit an intense unpleasant odour in themselves and the residual excrement, even though it may be small in quantity, also retains an unpleasant odour.

According to the invention there is provided moist toilet tissue comprising a moist main body of a paper-made tissue impregnated with a dilute aqueous solution containing epigallocatechin gallate and contained within a waterproof container provided with a takeout hole.

Thus, with the aim of solving the problem mentioned above, the inventors took notice of epigallocatechin gallate (tea-leaf tannin) constituting one component of tea and having an especially high deodorant effect. When a moist tissue is impregnated with epigallocatechin gallate, a deodorant effect is exhibited, the multiplication of bacteria is inhibited, and the moist tissue has a guaranteed safety for human body.

The invention is diagrammatically illustrated by way of example in the accompanying drawings, in which:

Figure 1 is a perspective illustration of a moist toilet tissue according to a first example of the invention; and

Figure 2 is a perspective illustration of a moist toilet tissue according to a second example of the invention.

A main body 1 of moist tissue is of a continuous paper-kind provided with perforated lines extending in the transverse direction. The tissue is impregnated with a dilute aqueous solution of epigallocatechin gallate, the impregnated main body of tissue is folded and packed into a box-form waterproof container 2 provided with a takeout hole 2a, and the tissue is withdrawn and cut into an arbitrary length through the takeout hole, the cut tissue subsequently being put to use.

Alternatively, the moist tissue can be so constructed that the main body 1 of a continuous paper-kind previously provided with perforated lines extending in the transverse direction is impregnated with a dilute aqueous solution of epigallocatechin gallate and rolled up to form a roll-like cylindrical container 2 provided with a takeout hole 2a in the upper portion thereof. The tissue is withdrawn and cut into an arbitrary length through the takeout hole, and the cut tissue is put to use.

The epigallocatechin gallate with which the moist tissue is impregnated is of the kind of catechins constituting the major component of tea-leaf tannin. It is sometimes called green tea flavonoid. It has an especially high deodorant effect and so high a safety for the human

body that it is conventionally used in chewing gum. It exercises an inhibitory effect on the multiplication of bacteria. Accordingly, it is effectively usable for wiping off excrement emitting an intense unpleasant odour and retains cleanness and a high safety. Thus, it can give a moist tissue a desirable characteristic from the viewpoint of environmental protection.

If desired, the moist tissue can be prepared by impregnating moist tissues already enclosed in a box-form or roll-form container with a dilute aqueous solution of epigallocatechin gallate.

In the first example shown in Figure 1 of the accompanying drawings, 3 grams of epigallocatechin gallate (tea-leaf tannin) are dissolved in one litre of water with thorough stirring to prepare a dilute aqueous solution, which is used to impregnate a continuous main body 1 of tissue previously provided with perforated lines extending in the transverse direction. The impregnated main body of tissue is introduced in a folded manner into a waterproof box-form resin-made container 2, provided with a takeout hole 2a in the upper portion thereof, and used by withdrawing and cutting the main body of tissue into arbitrary lengths through the takeout hole, and putting the cut tissue to use.

In the second example shown in Figure 2 a continuous main body 1 of tissue previously provided with perforated lines extending in the transverse direction is impregnated with the same dilute aqueous solution as above, the main body of tissue is rolled up into a roll-like material, and is introduced into a waterproof cylindrical container 2 equipped with a takeout hole 2a in the upper portion thereof. The tissue is used by withdrawing and cutting the main body of tissue through the takeout hole.

Since the moist tissue of the invention contains epigallocatechin gallate, it can have an especially high deodorant effect and effectively inhibits the multiplication of bacteria with safety for the human body. Accordingly, the moist tissue of the invention is effectively usable for wiping off excrement emitting an intense unpleasant odour or the like while retaining cleanness and a high safety. Thus, according to the invention, a moist tissue desirable from the viewpoint of environmental protection can be obtained.

Further, if desired, a prior moist tissue can be converted to a moist tissue of the invention by impregnating the prior moist tissue with dilute aqueous solution containing epigallocatechin gallate. Thus, according to the invention, a wet tissue easy to handle and low in price can be obtained.

Claims

1. Moist toilet tissue comprising a moist main body (1) of a paper-made tissue impregnated with a dilute aqueous solution containing epigallocatechin gallate and contained within a waterproof container (2) provided with a takeout hole (2a).

Fig. 1

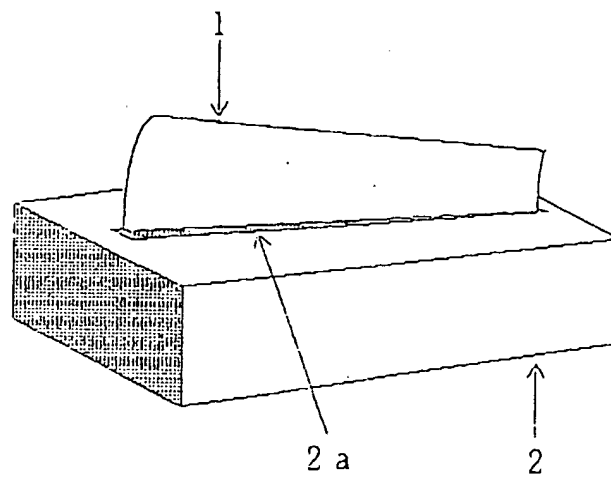
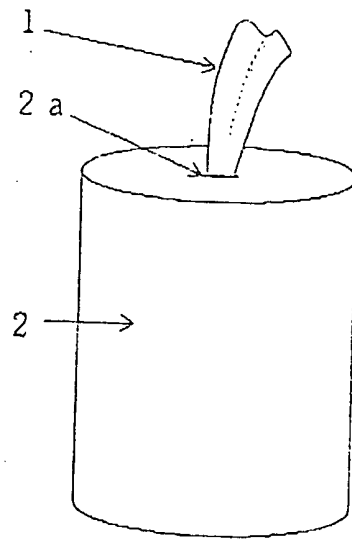


Fig. 2





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 98 30 0957

DOCUMENTS CONSIDERED TO BE RELEVANT					
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.8)		
Y	GB 2 252 954 A (PALLISER ALBERT) 26 August 1992 * the whole document *	1	A47K10/32		
Y	PATENT ABSTRACTS OF JAPAN vol. 095, no. 011, 26 December 1995 & JP 07 194683 A (OKUAKI KOGYO KK), 1 August 1995, * abstract *	1			
A	DE 40 06 987 A (PENATEN GMBH) 12 September 1991 * the whole document *	1			
A	PATENT ABSTRACTS OF JAPAN vol. 014, no. 208 (C-0714), 27 April 1990 & JP 02 045059 A (KUBO GIJUTSU JIMUSHO:KK), 15 February 1990, * abstract *	1			
A	PATENT ABSTRACTS OF JAPAN vol. 014, no. 020 (C-676), 17 January 1989 & JP 01 261313 A (FURABON KK), 18 October 1989, * abstract *	1	<table border="1"> <thead> <tr> <th>TECHNICAL FIELDS SEARCHED (Int.Cl.8)</th> </tr> </thead> <tbody> <tr> <td>A47K</td> </tr> </tbody> </table>	TECHNICAL FIELDS SEARCHED (Int.Cl.8)	A47K
TECHNICAL FIELDS SEARCHED (Int.Cl.8)					
A47K					
The present search report has been drawn up for all claims					
Place of search THE HAGUE		Date of completion of the search 27 May 1998	Examiner Vrugt, S		
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03 82 (P4/C01)

